

AMERICAN FRUIT GROWER

IN THIS ISSUE

FIRST INTERNATIONAL
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EXPOSITION

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AMERICAN FRUIT GROWER

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AUGUST

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THE NATIONAL FRUIT MAGAZINE

NO. 8

"WHEN I BEGAN TO GO I BEGAN TO GROW"

ALTHOUGH all of us are not from Missouri, there lurks in our minds, when contemplating ventures into new activities, the "You'll have to show me" thought. Especially is this true when the activities concern new practices and operations for the fruit farm. If we are able to see a form of orchard soil management being used with success there is an established basis for taking up this operation.

Always useful to the observing person are trips to neighboring orchards to learn of new and improved practices and to see the latest fruit farm equipment in operation. One of the most inexpensive means of making these tours is to join state horticultural societies. Each of the societies makes a tour to orchards of progressive fruit growers to observe latest cultural, insect and disease control and miscellaneous operations. The grower-owners of these orchards and state horticultural specialists are on hand to answer questions and to explain the various operations. Many societies feature short educational talks in connection with the tours. Membership fees of the state societies are low and the summer tours are inexpensive.

Pioneer in the sod-mulch system of orchard soil management was Grant G. Hitchings, veteran New York grower. At the turn of the century Mr. Hitchings was using the sod-mulch system extensively in his own orchards, but other growers were skeptical about its success. Grower after grower visited the Hitchings orchards and as they witnessed the success of the sod-mulch system its use spread. Today some form of the sod-mulch system is the rule more than the exception in apple orchards east of the Rocky Mountains, particularly on rolling or hilly land. Thus, observation and acceptance established a basic principle of orchard management.

The value of traveling and observing is clearly shown by the experience of an Indiana grower who had been having trouble in making successful grafts. One summer growers in his section were invited to the Bedford Orchards of the Purdue Agricultural Experiment Station and while on the trip he saw successful grafts in this orchard. One of the station workers explained the method by which the grafts were made and the grower realized that he had been placing the scions too near the middle of the branch into which they were grafted and there was no contact of the food-conducting tissues. This one trip showed this grower the method by which to graft superior varieties on his older trees.

A trip to an orchard only 20 miles from the home of a Midwestern grower was planned by his horticultural society. There was a question in this man's mind as to whether such a trip was worth while, but, fortunately, he finally decided to go. While walking through the orchard where the meeting was being held he noted the absence of the green aphid which had been

causing him trouble in his own orchard. When he came back to the packing shed for lunch he located the owner of the orchard who told him that he had used a dormant spray which killed the aphid in their overwintering stage. He also told him the spray used and where to obtain it.

A comparatively simple problem faced a Maryland orchardist when he was planning to install a washer in his packing house. His packing house lacked a convenient place to install a washer. While on a tour with the Maryland society, this grower saw a packing house layout which showed him how to reorganize his to accommodate a washer. He made the necessary changes, thus saving unnecessary labor at harvest.

Interest in fruit was diminishing in an Illinois town. One of the fruit growers supplying the town wondered what might be done to advertise his fruit. He went to the State Horticultural Society meeting and during a discussion heard another member tell how he had sponsored a fruit recipe contest in his town, giving small monetary prizes. One woman, it was told, turned in 157 recipes for apples alone. This example enabled the Illinois grower to stage a similar contest in his home town, arousing much fruit interest and boosting sales.

Other instances of benefits to growers might be mentioned, but these serve to show the many ways in which the fruit grower may derive ideas for betterment from traveling and observation. One grower aptly made a significant statement, talking of the tours and meetings which he had attended, when he said, "When I began to go, I began to grow."

There are many meetings and tours scheduled for August throughout the country. If YOU have not already made plans to attend the summer meeting of your state society, PLAN NOW TO DO SO!

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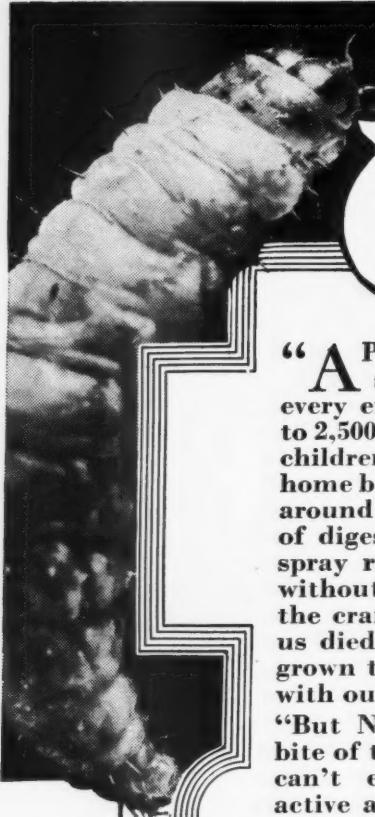
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AUGUST, 1936

AMERICAN FRUIT GROWER



**IF YOU WANT A
WORM'S-EYE VIEW
OF THE
ASTRINGENT LEAD
SITUATION**

"A PAIR of us codling moths start out in the spring with every expectation of having 2,000 to 2,500 hungry apple-worm grandchildren looking for a nice apple home by the time you Growers got around to cover sprays. We sort of digested the ordinary arsenic spray residue right on through, without even getting a bad case of the cramps. Of course, some of us died off, but a lot of us had grown to like arsenical seasoning with our meals.
"But NOW! If you take a good bite of the 'Astringent' kind, you can't eliminate it before the active arsenic kills you.
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AMERICAN FRUIT GROWER

Nationwide News

California now boasts of 386 varieties of citrus fruits, according to officials of the citrus experiment station of the University of California.

▲ ▲ ▲

In his annual report, J. M. Diehl, secretary-treasurer of the East Central Fruit Growers Production Credit Association, stated that \$850,000 had been borrowed from the organization by growers in five states during the past fiscal year and that all but \$65,000 of this had been repaid. The remainder is expected when the fruit on hand is moved.

▲ ▲ ▲

A Florida citrus grower has succeeded, by crossing the Mexican lime and lemon, in producing a new citrus fruit that resembles the lemon, but resists several diseases common to that fruit.

▲ ▲ ▲

More than 100,000 seedlings, including tree and small fruits, have been grown in 50 years of fruit breeding at the New York Agricultural Experiment Station at Geneva, according to Prof. G. H. Howe of that station.

▲ ▲ ▲

A recent survey shows that two-thirds of the Virginia apple crop is packed in baskets, the remainder in barrels and a trace in boxes.

▲ ▲ ▲

Recent announcement was made that the Union Pacific Railroad will put in use, during the year, 3000 new refrigerator cars at a cost of more than \$10,000,000. The cars were purchased for the Pacific Fruit Express Company, which is jointly owned by the Union Pacific and Southern Pacific Railroad companies.

▲ ▲ ▲

Growers near Thompsonville, Conn., have noted a demand in that section for larger quinces. These larger fruits are not available in that section and the growers are taking advantage of the observed demand and are planting trees of the larger quince varieties.

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A dehydrator of 15 tons capacity is being erected at the Del Rey, Calif., plant of the Sun-Maid Raisin Growers.

▲ ▲ ▲

Movies for pruning instruction are a new step toward increased visual education practices. George L. Knight, Montana state horticulturist, is using this method of instructing growers how to prune correctly.

FIRST INTERNATIONAL HORTICULTURAL EXPOSITION FOR FRUIT GROWERS

THIRTY-SIX years ago an annual exposition for the live stock industry was inaugurated and today one of the largest agricultural functions in existence is the International Live Stock Exposition and Hay and Grain Show held each year at the International Amphitheatre in Chicago. This year Chicago will play host to the first International Horticultural Exposition, September 12-20. Just as the choice animals of the country are paraded before throngs at the Live Stock Exposition, the best of the nation's horticultural specimens will be

Leaders of Industry Aid In Greatest Show

apple sauce will be offered by the National Apple Institute. Winners in contests for the best grower-owned roadside stands, dealer-feature displays, window displays for general

"This is the greatest movement ever proposed to unify the horticultural industries and interests," stated Dr. J. H. Gourley, Chief in Horticulture at the Ohio Agricultural Experiment Station and associate editor of AMERICAN FRUIT GROWER, at a recent meeting of the advisory committee. President G. L. Smith of the Illinois State Horticultural Society, has been one of the active supporters of this new movement since its inception.

Paul Stark, Louisiana, Mo., writing of the Exposition, stated, "It will



International Amphitheatre where Chicago will play host to the International Horticultural Exposition

on exhibit for visitors during the nine-day show.

With President B. S. Pickett of the American Pomological Society in charge of the fruit department, growers in all sections of the country will have an opportunity to display their fruit as a major part of the exposition that will also include flowers and vegetables. The classification and premium lists are now available and copies may be secured by writing the International Horticultural Exposition, International Amphitheatre, Chicago, Ill., or the AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio. The lists will include all of the fruits available at that season of the year in large and small quantities. Competitive classes have been arranged so as to be attractive to both the commercial grower and the amateur.

Featured with the fresh fruit will be by-products of the industry. A trophy for the best exhibits of apple pie, apple butter, baked apples and

groceries featuring apples and peddlers' carts featuring apples will be awarded trophies by the International Apple Association. It is expected that the American Pomological Society will award Wilder medals for outstanding exhibits.

There will be no entry fees for exhibits and winners in each class will receive cash and ribbon awards. Each exhibitor will be issued a certificate of participation stating that he was a charter exhibitor at the first Exposition. A corps of experts will be on hand to make the exhibits as educational as possible by answering questions of visitors.

Dr. J. C. Blair, Head of the Department of Horticulture at the University of Illinois, is chairman of the advisory committee of the Exposition and has organized leading horticultural workers to promote the project. Vice-chairman of the advisory committee is Dr. August Koch, Chief Horticulturist, Chicago Park District.

fulfill an important need and if various interests will cooperate it will create a great deal of interest among the public and help to bring the various horticultural interests closer together in their thinking and their activities."

Team work and complete industry cooperation have made the 35 successful Live Stock Expositions. Financial sponsorship, provision of a building large enough to house an Exposition worthy of the horticultural industry and a staff of workers trained in staging expositions have been provided by the Union Stock Yard and Transit Co. and it is now necessary that all horticultural forces unite to make the International Horticultural Exposition a success.

The U. S. D. A., several State and Provincial agricultural experiment stations and colleges, horticultural societies, individuals and other groups have already pledged support to the

(Continued on next page)

BERRIES •

SUPPORTING RASPBERRIES

Five years ago on the premises of George C. Pauley near Hibbing, Minnesota, I saw the first attempt on a commercial scale at supporting raspberry canes without the use of stakes or wire. His planting was grown in the hill system, and it was just before the fruiting season. The hills were tall, upright, and I thought Mr. Pauley had used a stake in the center of each hill. I found upon investigation there was no stake, and that the



Wire-less, stake-less raspberries

canes simply had been tied together very tightly near the top so that they would brace each other.

Since that time many different ways of tying the canes have been tried. Some growers have tried using one tie, others have used two ties, and these ties have been made in various different ways. The success or failure of these different methods has taught us something about this simple and effective method of supporting red raspberry canes.

It is important that the canes where they come through the soil shall not be too close together. A reasonable spread at the bottom provides much added strength and support. Then it is important that the tie be made very tight so that it will not slip during the season. It has been found difficult to prevent slipping when a single tie is used.

It was thought that any method using two ties would solve this problem. However, it was discovered that when two ties were used the canes sometimes would twist sidewise after growth was well advanced, allowing the canes to sag.

To prevent this side twisting, the two ties were made close together, about six to eight inches apart. This method appears to have solved most of the difficulties encountered. Recently the name "teepee" has been used to designate this system, because the bare canes, after being tied, resemble the outline of an Indian teepee. The twine is tied very tightly and

the canes are pruned off four to six inches above the top tie.

The height at which the top tie is made will vary according to the strength of the canes. A sturdy hill of Latham with well spaced canes will be tied at about 40 to 48 inches. This permits a longer length of cane than when no system of support is used, thus permitting a considerable increase in production. It also permits faster picking than the hedge row system. Ordinary binding twine is used to make the tie and the tying may be done during the late fall, winter, or early spring before growth starts. Where snow breakage is a problem it is best to tie the canes in the late fall or early winter.

This "teepee system" is being adopted by many growers located where stakes are expensive to obtain, and it is proving to be an excellent substitute for the staked hill system. It is, in fact, a staked hill system without the stake.—J. D. WINTER.

STRAWBERRY VARIETIES

The past growing season brought out the weaknesses of many strawberry varieties and caused an increase of interest among many growers in the newer varieties that are more resistant to cold, drought and diseases. While speaking at the Fruit Growers' Day at the New Jersey Agricultural Experiment Station, J. Harold Clark, professor of pomology at Rutgers University, stated, "Of the varieties that are available, probably the best for commercial planting in New Jersey are Lupton, Catskill, Dorsett, Fairfax and N. J. 35. Within the next five years some of these will, in all probability, be superseded by superior varieties. It is therefore important that growers keep in touch with new developments in the variety situation."

STRONG CANES

To prevent the development of long, slender canes which bend and break under a load of fruit, new shoots of black raspberries should be pinched or cut off when they reach a height of from 18 to 24 inches. Purple raspberries have a more vigorous growth and they are cut back to 30 to 36 inches. It may be necessary to go over the planting several times during the summer to cut off the shoots as they reach the desired height.

STRAWBERRY FESTIVAL

West Virginia's initial strawberry festival was held recently at Buckhannon. Governor H. G. Kump was the principal speaker at the coronation of the festival queen, Miss Laura Jean Watson. The festival, which drew large crowds, was designed to advertise the strawberries of the Buckhannon section.

CHERRIES •

CHERRY CRACKING

Trouble was experienced in the Lewiston, Idaho, district during the recent cherry harvest with cracking of Bings. Dr. Leif Verner, chief of the horticultural department at Idaho State College, says that the Deacon variety has the same characteristics as Bing and is much less liable to crack.

ROOTSTOCK TEST

Results of an 18 year test on cherry rootstocks at the Blackwood, Southern Australia, Experiment Orchards, indicate that Mahaleb is the best rootstock for sweet cherries and growers in that country are using it almost exclusively.

PEARS •

BARTLETT TESTS

A test which has been in operation at the Strongsville Experiment Farm of the Ohio Experiment Station since 1929 has given some interesting observations as to the benefits to be derived from various systems of soil management for Bartlett pear trees. Those trees in the cultivation-cover crop plots have shown only a slightly greater average gain in cross sectional area of the trunk than the trees in the grass and straw mulch treatment. Up to the present time the trees in grass mulch have produced practically the same average total yield per tree. It has been generally assumed that the system of soil management most satisfactory for the pear is cultivation with a cover crop although some Eastern pear growers are using blue grass sod with nitrogen where blight is a serious hazard. Under conditions where the soil moisture is favorable it appears that the growth and fruiting of the trees in blue grass sod to which a readily available nitrogen fertilizer has been applied early in the

(Continued on page 9)

FRUIT EXPOSITION

(Continued from preceding page)

fruit department and it is the responsibility of every fruit grower in the country to support the fruit department of the International Horticultural Exposition. Send for the classification and premium list today. Plan to attend this great Exposition as your contribution to the "forward march" of Horticulture.

AUGUST, 1936

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AUGUST, 1936

Last year the winner of the "Master Award" of the Illinois 95% Clean Apple Club was O. G. Jones, whose score in the competition was 99.1%. The Jones Orchard is located three miles east of Mt. Sterling, Ill., on U. S. Highway 24. In the following article Mr. Jones has told our field editor of some of the practices followed on the farm which brought him this distinction among Illinois growers.—ED.

HOW WE GROW 99.1% CLEAN APPLES

A STORY OF SUCCESS
IN ILLINOIS AS TOLD
By O. G. JONES
To
W. H. ZIPF



Packing house of the Jones' Orchard near Mt. Sterling, Ill., with the orchard tractor and spray rig in the foreground.

SINCE receiving the "Master Award" of the Illinois 95% Clean Apple Club, I have been asked by many people just how my score of 99.1 per cent was obtained. We have no trick gadgets or pest destroyers on the Jones Orchard and follow only the advice of the University of Illinois Horticultural Department and the Illinois Agricultural Experiment Station in the matter of spraying and orchard sanitation.

One of our principal facilities which I believe has aided us greatly in obtaining clean fruit is quick coverage of the orchard when spraying. Using three men on our spray outfit we are able to cover the entire acreage on both sides of the trees in two days. This is especially convenient when spraying for scab and in other instances where timeliness is essential. To allow for this type of spraying it is necessary to have an ample supply of water. In 1934 we were short as far as the water supply for spraying was concerned. Previous to this time we had used the spring as a source of water, but in 1934 the spring wasn't enough. With the tractor and a self-loading scraper a pond was built which holds eleven feet of water.

Another factor in the quick coverage of our orchard is an elevated 5000-gallon concrete tank which is centrally located in the orchard. This has a four-inch outlet pipe with a quick opening lever and we can fill a 400 gallon sprayer tank in 90 seconds. Our regular rate of spraying is 16 tanks in about eight or nine

hours. We use three-quarter inch hose, 15 feet long on the tower and 35 feet long on the ground. Eight-nozzle, fog-drive guns are used on each lead and when it is necessary to spray in a high wind the tractor driver uses a single gun for the tops of high trees.

In the spraying operations we use a tractor take-off rig which has a 400 gallon tank and the pump gives a delivery of 35 gallons per minute. We maintain a pressure of 600 pounds at all times while spraying and have had no trouble or delays during the two seasons that this outfit has been in use.

I believe that the orchards of the future will be made up of dwarf or semi-dwarf trees allowing for greater ease in cultural and insect and disease control operations and will permit closer planting, especially in one direction.

We have used treated bands as supplemental codling moth control up until last year when we felt that we had the worms controlled to such a point that the bands were not necessary. General orchard sanitation practices are followed as thoroughly as possible.

This farm was purchased by my grandfather in 1864 and has been in the family ever since. I took over the business in 1920 after having spent about a year in France with the army.

The farm is made up of 80 acres, 50 of which are in orchard and the remainder in pasture which we are planting to Northern pecans and budded black walnuts, having started this project last year with 75 trees.

The 30 acres of orchard in bearing was planted in 1914 and 1917 and the first year it produced a crop was in 1926. This 30 acres produced 15,000 bushels in 1935. In 1933, 16 acres of the old orchard were removed and the land was plowed, limed and laid with drain tile. This land and four additional acres were planted with new varieties in 1934.

I was away from the farm from 1925 until 1931, and at that time I employed a manager to run the business under my direction. During that period I was manager of the Watson Orchards and Cold Storage at Valley City, Ill. Upon returning to the orchard I remodeled the house, built a cider mill and rebuilt the barn into a packing house having a 40 by 60 foot concrete floor and a moth-proof box and basket room in the loft for storage.

In 1935 we rebuilt a small barn 30 by 30 feet in size into a vinegar plant, installed new equipment and filled it to capacity with the 1935 crop. The cider was made from drop apples which were in good shape, but there was no market due to the large crop.

(Continued on page 14)

AMERICAN POMOLOGY

A Page Conducted in the Interests of the
American Pomological Society

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affiliated State Society.

Edited by H. L. LANTZ, Secretary

EXPOSITION

President B. S. Pickett, just back from Chicago where he attended a committee meeting, reports excellent progress in the plans for holding the First International Horticultural Exposition in Chicago, September 12-20. Such an exposition for horticulture is a start in the right direction, and the fruit industry should gain some very real benefits as a result of the impetus and stimulation of a great exposition. The live stock interests have long held to the traditions of well-being for their industry as exemplified by the International Live Stock Exposition held in Chicago each year.

COLD STORAGE EQUIPMENT

THOSE who are contemplating the installation of refrigeration equipment will be interested in the statement of Professor C. I. Gunness, Department of Agricultural Engineering, Massachusetts Agricultural College, Amherst, who discussed "Refrigeration Equipment for Apple Storages" at the Hartford meeting. Among other things he advised as follows:

"The selection of the mechanical equipment for refrigerated storages is not a simple matter as it involves careful calculations in order to obtain equipment of proper capacity and suitable for the work to be done. There are three methods to follow in the purchase of equipment. The first method is that of employing a consulting engineer who studies the problem and specifies the equipment to be installed. Bids are then received from various concerns, and usually the contract is given to the lowest bidder. This is a very satisfactory method if a competent engineer has drawn the specifications. There is a danger, however, that even though he is a high-grade man, he may not be thoroughly familiar with the needs of the fruit grower, and he may specify more elaborate equipment than the job will warrant. He may be prejudiced in favor of one type of equipment and accordingly write specifications which will prevent certain lines of goods from being offered. At best, you get one man's ideas and his plan may or may not offer the best solution.

"Another method is that of allowing various manufacturers to write their own specifications, and offering equipment

which they feel will meet the needs of the case. This brings together the ideas of a number of men, and some gain may be made through suggestions offered on types of equipment. The tendency will be to accept the lowest bid in spite of the fact that the various concerns may bid on different sizes and types of equipment. Obviously, this is not fair to the concern which offers larger equipment than that offered by the low bidder. Even a guarantee to give a certain performance is hardly adequate, as guarantees are difficult to enforce and may end up in litigation.

"A third method is that of obtaining bids from various reliable concerns with specific statements as to the various pieces of equipment which they propose to furnish. Where there is considerable difference in the sizes offered, it will be necessary for the owner to make up his mind as to which size he needs and can afford. This may be difficult to do inasmuch as the problem is technical, but a careful study of the arguments offered by each sales engineer in support of his recommendations should help the owner to make his decision. Having decided on the type and size to be installed, the owner should then ask that bids be revised and offered on similar and equivalent equipment. By this plan, the owner gets the benefit of the experience of a number of men and the manufacturers are enabled to offer fair bids on equivalent equipment.

"Before any bids can be received on cooling equipment for a storage, it will be necessary for the grower to state what is expected of the equipment. The bidders will have to have the dimensions of the building and the type and thickness of the insulation. If misunderstanding exists as to the insulation, the bidders are off to a bad start. The owner must estimate the number of bushels to be harvested each day and the approximate date of harvest. If the chief crop is McIntosh, harvested in the latter part of September, the apples will usually come in at a considerably higher temperature than if the crop is Baldwin harvested in October.

"The heaviest load on the refrigeration machine is due to the cooling of the apples, and obviously it is necessary to know the temperature of the apples as they enter the storage. The temperature will vary with the season, will vary from day to day and hour to hour, and even vary depending upon the side of the tree from which the apple is picked. While it is impossible to estimate the temperature with any degree of accuracy, it is desirable that all bids be based on the same assumption. For McIntosh, harvested during the latter half of September, it will probably

CROP PROSPECTS

Crop estimates by the U.S.D.A. indicate the shortest crop of apples in 15 years. Peaches are also "off" in Illinois, Indiana, and Ohio, but "on" in a number of other important producing states, the total crop in the United States being estimated at about 80 per cent of last year. The pear crop is slightly over that of last year. The three states, Oregon, Washington, and California are credited with 17,600,000 bushels of the indicated total of 22,544,000 bushels for the entire country.

be satisfactory to assume a temperature of 75° F. For Baldwins, coming to the storage in October, this can be reduced to 70° F., or even 65° F.

"The owner must estimate the number of bushels to be harvested in a day. While this varies with the season and with the number of varieties to be stored, it is again necessary that all estimates be based on similar assumptions. Growers are inclined to underestimate the number of bushels picked each day. The estimate should not be based on the largest number of bushels harvested in any one day, but rather on the average during the early harvest."

ANNUAL REPORT

Perhaps an explanation is due our members as to the delay in getting the Annual Report printed and mailed. For a number of years the A.P.S. has been holding its conventions in joint session with the various state horticultural societies. Arrangements were made whereby the A.P.S. could use the printer's set-up in printing the report of the host society. In preparing the A.P.S. report, matters strictly relating to the host society are omitted, and material of interest mainly to the A.P.S. is included, such as the Reports of the Committees on Nomenclature, New Fruits, and Wilder Medal, Secretary's Report, Treasurer's Report, stenographic reports of various special meetings of the A.P.S., etc. Under such an arrangement the A.P.S. cannot print its report until the host society report is printed. This year, with nearly 1,800 miles between the printer and the secretary, a little more delay than usual occurred in getting the report printed. But we feel sure you will find the report one of the best published in recent years.

AUGUST, 1936

PEARS

Continued from page 6

spring may prove satisfactory. According to Dr. F. S. Howlett, under whose direction the tests of the Ohio Station have been run, where the soil moisture is frequently deficient and particularly if the tree rooting is comparatively shallow, the mulch system will give more satisfactory growth and fruiting.

CITRUS

GRAPEFRUIT JUICE

Starting in a small way four years ago, the canning of grapefruit juice by plants in the south Texas citrus belt has assumed national proportions, with millions of cans of juice being shipped out of this section annually. More than 17 plants processed grapefruit culls during the past season. It has been estimated that about 20,000 tons of culls were used for this purpose, bringing returns to growers of about \$200,000. This by-product industry was definitely established in south Texas at a time when development of the fresh fruit market was slow, but now the quality of the canned product aids in creating a market for the fresh fruit in season.

CITRUS ADVERTISING

Continuing their far-flung advertising program, the California Fruit Growers Exchange has recently inaugurated a new campaign which emphasizes the health factors of orange juice used twice a day—at breakfast and at 4:00 p.m. It was recently stated by W. B. Geissinger, advertising manager of the exchange, that since 1907 this organization has invested \$21,642,277 in advertising.

PURPLE RASPBERRIES MAY SPREAD DISEASE

In an article entitled, "The Identity of Raspberry Mosaics," appearing in the journal *Phytopathology*, Prof. L. M. Cooley, plant disease specialist at the New York State Experiment Station at Geneva, describes inoculation experiments and field studies with raspberries in which he was able to prove that the so-called "mild mosaic," almost universally present in the purple raspberry Columbian, is a transmissible virus disease.

The studies showed also that this virus is the same as that which causes red raspberry mosaic, the most common and injurious of all the raspberry

virus troubles in New York state. The mildness of the disease in the Columbian variety is accounted for by the natural resistance of that variety to the mosaic, says Prof. Cooley.

Despite the fact that commercial plantings of Columbian raspberries may themselves suffer little from "mild mosaic," they are, nevertheless, a distinct menace to nearby healthy plantings of other raspberries, particularly black raspberries which succumb quickly to attacks of mosaic. Isolation of all plantings of healthy raspberries from plantings of the purple Columbian variety is recommended as a necessary measure if the healthy stock is to be maintained virus-free.

"It seems probable now that there are only two distinct viruses causing mosaic diseases in raspberries in the northeastern United States," concludes Prof. Cooley. "These have been known in the past as 'red raspberry,' or simply 'red' mosaic, and as 'yellow' mosaic. A new name, 'green mottle' mosaic, is suggested for 'red' mosaic, because of the wrong interpretations which are likely to be implied from the use of 'red' mosaic."

Pecan Storage

PECANS may be kept in fresh condition either in shell or as kernels, by placing them in cold storage. Storage temperatures for pecans should range from 32° to 36° F. if the nuts are to be stored during the entire summer. For a shorter period of storage, the temperatures may be slightly higher.

Care should be taken not to store pecans in damp rooms or in rooms where there are other products which impart odors, such as onions and apples.

W. D. Mills, plant pathologist at Cornell University, told New York growers at their annual meeting that leaf scorch injury may be curtailed or prevented by the use of wettable sulphurs of good quality. He also stated that silver leaf disease of cherries was thought to be present during the past year in Orleans County, New York.

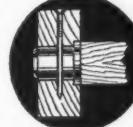
LADDERS SPECIALY BUILT FOR FRUIT PICKING Direct from Factory to you

Ladders, designed and tested by experienced commercial fruit growers and built by a dependable ladder manufacturer of long experience, are bound to give you greater satisfaction. BAUER Ladders for Fruit Pickers are such ladders. With double-dipped tenons and countersunk rungs, their greater safety lasts longer, saving time, trees and money for you.

OHIO KING — Extra wide spread of legs and back construction make this ladder stand firm and easy to handle in orchard. Six sizes—4 to 10 ft. high.

HI-LO — Light weight, easy to store and handle. Any desired length easily assembled with extra center sections. All sections 6 ft. long.

EXCELSIOR — A closed top tapered ladder — easy to handle — saves time and branches. Eight sizes — 8 to 22 ft. lengths.



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BAUER Counter-sunk rungs and double-dipped tenons
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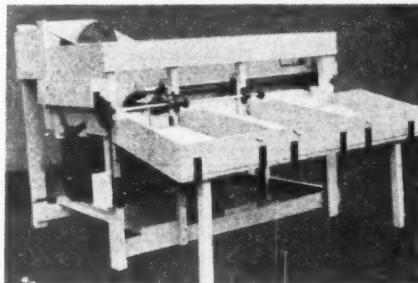
AMERICAN FRUIT GROWER

I R R I G A T E

Economically with OOOZ Porous Hose. OOOZ does a better job with less water. Water flows gently through pores of hose into ground. Adapted for orchard, field, garden or lawn. Treated to withstand decay. Money refunded after 5 days' trial if not satisfied.

Send at once for engineer's questionnaire and let us estimate your hose requirements. No obligation.

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Suites—Two bedrooms, parlor and bath
for four persons, \$4, 5 and 6 per day.
Large room for four, \$4 per day.
SEVENTH DAY FREE
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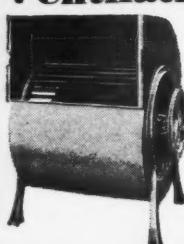


PAGE 9

STATE NEWS

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Distinguished for High Scholastic Standing. Individual instruction emphasized. Boys taught to do things for themselves. Success based on interest and understanding. Every lesson learned every day. Fully accredited. 58th year. For catalog, address

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Apple, Peach, Fruit Graders

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A G E N T S W A N T E D

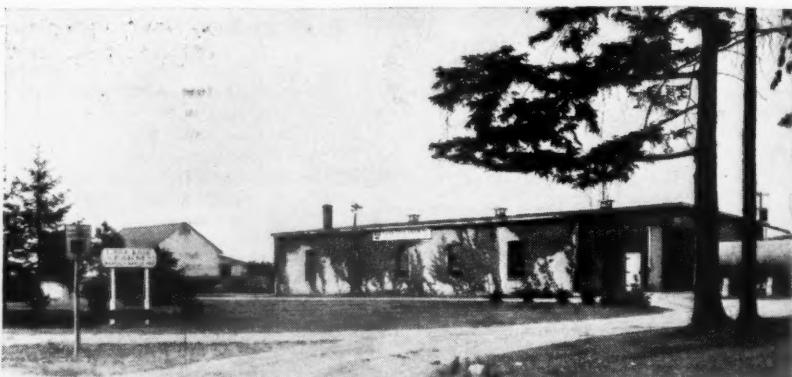
PAGE 10

MINNESOTA—Membership in the Minnesota Fruit Growers' Association increased from 287 in 1935 to a total of approximately 600 at the end of the first half of 1936. The annual meeting of the State Horticultural Society was held at the Minnesota Fruit Breeding Farm, June 27. One of the interesting sights of the day was a block of pear trees showing varying degrees of winter injury. The Parker and Patten pears were outstanding for hardness among the named varieties. Zachman and Mendel varieties were almost completely destroyed as were Douglas and Tait No. 2. Minnesota No. 3, a small, high quality pear, appeared much hardier than any of the named varieties and should prove a valuable sort for Northern locations. All of the named varieties mentioned showed some injury.—J. D. WINTER, Sec'y, St. Paul.

NEBRASKA—A fair crop of fine quality fruit will greet members of the Nebraska Horticultural Experiment Station.

vania, conducted a thinning demonstration and O. D. Burke, Pennsylvania extension plant pathologist, led a discussion on spraying results in the Snyder orchard. The Hershey, Ontelaunee, Stoudt's Ferry and Maidencreek orchards were visited by fruit growers of Southeastern Pennsylvania on their Field Day, July 21. The group ate lunch on the Sky Line Boulevard at Reading which was followed by a program with J. U. Ruef, R. S. Kirby and J. O. Pepper, all of the Pennsylvania State College, as the principal speakers.—R. H. SUDDS, Sec'y, State College.

MICHIGAN—August will be a busy month for Michigan fruit growers if they attend all of the meetings scheduled. The annual orchard tour will be held at the Graham Horticultural Experiment Station west of Grand Rapids on August 11 with a tour of the orchards of Bos Brothers, Wesley Mawby, Phillip Klenk and Sons and Arnold and William Schaefer on the following day. Peach day will be held at



Entrance of the Lake Erie Farm, operated by Mantle and Mantle near Painesville, Ohio, where the Northern Ohio summer meeting of the Ohio Horticultural Society will be held, Aug. 20. On the following day the Ohio Orchard Day will be held at the Experiment Station at Wooster.

tural Society when they visit orchards in Cass and Otoe counties during their annual orchard tour which will be held on August 5. Interesting features of the orchards to be visited will be explained by owners and all interested are urged to attend.—E. H. HOPPERT, Sec'y, Lincoln.

NEW YORK—The Western New York Horticultural Society will hold its summer meeting at Waterport, August 19. There will be a Farm Bureau tour before the meeting, visiting orchards and small fruit plantings in the district. A visit to the orchards and home of Harry L. Brown, Waterport, has been arranged to be followed by a luncheon and meeting at Point Breeze on Lake Ontario.—H. B. TUKEY, Geneva.

NORTH DAKOTA—A joint meeting of the North and South Dakota State Horticultural Societies will be held at Fargo, August 20-21. Outstanding talks by horticultural workers from experiment stations and colleges of both states will feature the program of the meeting which will include tours through the orchards of the North Dakota Agricultural Experiment Station at Fargo.—A. F. YEAGER, Sec'y, Fargo.

PENNSYLVANIA—Elmer H. Snyder played host to growers of Lancaster County, Pa., at his orchard north of Florin for their recent field meeting. During the program J. U. Ruef, fruit extension specialist for Pennsyl-

the South Haven Experiment Station under the direction of Stanley Johnston on August 29.

MARYLAND—Growers having orchards on hilly land are turning to stationary spray plants to aid them in bringing timeliness to their spraying operations. This spring stationary spray systems were installed in the C. H. Locher Orchard, Hancock, and the Gambrill Orchard, Frederick. R. S. Dillon, Hancock, has installed two heavy duty pumps in his stationary system on a 600 acre orchard. One spray line in this orchard is two miles long. In the past, Mr. Dillon has used his spray lines for orchard irrigation also, the water being furnished to the spray outfit pumps by a large centrifugal pump. The overhead system of piping is being used for the stationary spray lines, the pipes being suspended in the trees. Some new cold storage plants have been completed and used by Maryland growers during the past year. J. A. Cohill, Hancock, has a large room in the basement of his packing house which is cooled by blower refrigerating coils. R. C. Shaw, near Stewartstown, Pa., whose orchard lies on both sides of the Mason-Dixon Line, has a cinder-block room insulated with rock-wool, and cooled by blowers and refrigerating coils. A fine new packing house was completed last year at the W. F. Allen Company orchards, Salisbury. This house has many new arrangements in it and should rate among the best fruit packing houses in the East.—A. F. VIERHELLER, Sec'y-Treas., College Park.

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AUGUST, 1936

KANSAS—Grasshopper and drought injury has been injurious to fruit in scattered sections, but not to the extent of some of the reports recently circulated through the East. Where the 'hoppers occurred in large numbers considerable defoliation of fruit trees resulted although there were few such cases.—GEORGE W. KINKEAD, Sec'y, Topeka.

IDAHO—The summer meeting of the Idaho State Horticultural Association was held in the Municipal Park at Caldwell, July 9. The program of the meeting stressed marketing of Idaho fruit during the coming season. The present crop prospects for the State indicate that there will be 50 per cent of last year's production for apples and prunes and a normal crop of peaches.—W. H. WICKS, Sec'y, Boise.

INDIANA—On their 260 acres of apples, nine miles north of Peru, L. V. Doud and his brother, W. W. Doud, will play hosts to members of the Indiana Society for their annual summer meeting, August 12. Cultivation, cover crop and erosion problems may be observed as well as a good crop of fruit on the older trees. Much of the time will be given over to discussions and grower-questions. Several days of temperatures ranging from 100° to 115° have resulted in sunburned fruits in many Indiana orchards.

VERMONT—A fruit growers' tour is planned for August 17-19. This year the trip will be made to the Hudson Valley and individual cars will be used rather than buses. Get in touch with your secretary and plan to be with us on this tour.—M. B. CUMMINGS, Sec'y, Burlington.

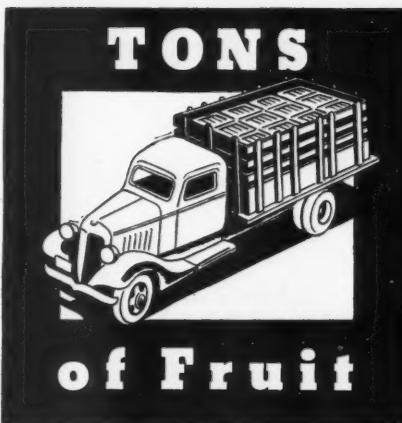
WEST VIRGINIA—The principal activity of the Society at the present time is completing the sign-up of growers for the four-state advertising campaign under APPALACHIAN APPLES, INC. The summer meeting of the

West Virginia Society will be held in late August, with the date to be selected later to allow for seasonal conditions. The meeting will be a one-day caravan tour to the mountain orchards of E. A. Leatherman at Rada, Hampshire County.—C. R. MILLER, Sec'y, Martinsburg.

IOWA—On August 14 the Iowa Fruit Growers' Association will sponsor a tour through the Harrison County orchard district in the vicinity of Magnolia, Iowa. This is one of the most concentrated fruit districts in the State and an interesting program is planned. July 1 crop reports forecast an apple harvest of 52 per cent of last year's crop. Grasshoppers are feeding on leaves of apple trees in scattered sections of the State. The damage is usually slight and it is expected that the trees will recover.—G. W. BARBER, Asst. Sec'y, Des Moines.

OKLAHOMA—Due to the late spring frosts there is little fruit of any kind in Oklahoma. Reports indicate a light crop of apples for the Eastern edge of the State with practically no fruit of any kind in other sections. Halbert and Burkett are the pecan varieties that have withstood the freeze fairly well. The walnut caterpillar, which last year caused defoliation of pecan trees in many sections, has again made its appearance. There are two broods, the first appearing in June and the second in August and September. The first brood this year was more severe than in 1935 and it is expected that the second brood will be more severe than last year. This insect is controlled by spraying with lead arsenate where the trees are not too large for spraying. If there are only a few scattered trees hand collection or burning with a torch is successful.—F. B. CROSS, Sec'y, Stillwater.

WISCONSIN—In addition to a light crop of (Continued on page 14)



IT WOULD be impossible to calculate the number of tons of fruit and berries eaten with Kellogg's Corn Flakes at this time of year. The use of fruit is recommended in all Kellogg advertising.

Kellogg's Corn Flakes are the most popular ready-to-eat cereal in the world because they're *better*. Finer flavor. Always crisp and oven-fresh. Ask for Kellogg's *by name*. At all grocers.

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CORN FLAKES

FERTILIZE Your FRUIT TREES

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'Aero' Cyanamid is Nitrogen plus Lime

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 Illustrated Mechanics.....1 yr.

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Choice of Any Four of
the Following Magazines for
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Enclosed find \$..... for which please send me
the magazines marked with an X.

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NOTEWORTHY PROGRAM FOR APPLE CONVENTION

SECRETARY R. G. Phillips recently took special interest in announcing the program of the International Apple Association convention to be held in Boston, August 11-14. Prominent on the speaking program are Dr. Ira Manville of the Oregon Medical College, who will speak on "New Developments in Nutritional Value of Apples as the Result of Research and Clinical Experience," and Dr. F. C. Flanck of the U. S. D. A. Bureau of Chemistry, who will talk on "New Developments in Apple By-products."

Says Mr. Phillips concerning the talks, "These are something new and will open a field that may well revolutionize the apple industry."

Arthur C. Babson of the internationally famous Babson's Economic and Business Advisory Organization at Babson Park, Mass., is to speak on "The Business Situation" and, according to Mr. Phillips, the talk will be of great interest to all business men.

Mr. Phillips states further that the talk of F. A. Motz, U. S. D. A. Market Specialist stationed at London, England, will deal with the 1935-1936 export season. As a final declaration for his program, Mr. Phillips states, "Any one of these addresses is worth coming clear across the continent to hear."

Up to July 21, there were 26 firms who reserved exhibit booths for the convention. The exhibits are always a special feature of International Apple Association conventions. The exhibits are judged and the best ex-



W. H. Baggs, Pittsburgh, who will again lead the convention of the International Apple Association at Boston

hibit is awarded \$25, the second \$15 and the third, \$10. Prizes of \$20, \$15 and \$10 are awarded to the persons turning in the best statement in writing on which exhibit is best, why they think it is best and the best feature of the exhibit.

President W. H. Baggs of Pittsburgh will again lead the convention at the Boston sessions. Mr. Baggs is widely known throughout the industry and conducted the 1935 convention at Cleveland in an excellent manner. In addition to the business sessions, featured by talks and discussions, there will be many entertainment events for those who attend the convention. A complete program has been planned for the women and families of those attending the convention.

Advance reports indicate a large attendance and with many pertinent problems facing the industry at the present time those who are present will have an opportunity to hear experts during the talks and discussions. There will also be an opportunity to express individual ideas on various subjects.

All persons interested in the apple industry are invited to this giant meeting in honor of King Apple. August 11 will be registration and "get together" day with a golf tournament scheduled for the afternoon. Those who are planning to attend the convention are urged to make reservations at once and to arrive as early as possible on the opening day of the meeting.

AUGUST, 1936



R. G. Phillips, Rochester, secretary of the International Apple Association, invites the industry to honor King Apple at the convention.
AMERICAN FRUIT GROWER



Roadside Stand of the Sunnyside Fruit Farm, Operated by Sam H. Moore near Greenfield, Ind. 7500 bushels of apples were sold from this stand last year.

ROADSIDE MARKETING STANDARDS

By CHARLES W. HAUCK

Ohio State University

PART III

Not all roadside market proprietors are good merchants. Not all of them maintain a high code of business ethics. Not all of them recognize the importance of repeat sales. Not all are well fitted, either by temperament or by training, to carry on this kind of retail business. Many of them, especially those engaging in it recently, have chosen it only as a temporary means of livelihood or as a supplement to income during difficult times, with the intention of withdrawing to more remunerative or more satisfying labor as soon as opportunity arises.

Needless to say, those whose interest is not permanent cannot be expected to hold an enthusiastic, long-time point-of-view, without which a profitable and substantial roadside business cannot be developed.

For several years the need has existed for some means of differentiating the worthy from the unworthy, some method whereby motorists may know which markets may be patronized with safety and with assurance of securing honestly-represented farm produce at fair prices.

In an effort to meet this need a group of leading Ohio farmers organized a statewide association of roadside market owners in August, 1932. This association was incorporated under the Farnsworth-Green Co-operative Act of the state of Ohio and is known as "Roadside Market Owners of Ohio, Inc.", yet it is not strictly a co-operative marketing organization. Each member operates his own place of business independently but agrees to abide by the regulations of the association. Membership is limited to residents of Ohio who are producers of farm products, thus assuring patrons of home-grown products when buying from these markets.

There are now about 50 of these members. The organization functions somewhat as a farmers' Better Business Bureau, or trade association.

The association has adopted a design and has registered it with the Secretary of State of Ohio in order to prevent its unauthorized use. To identify the markets of its members this design has been constructed in the form of standard, durable, weatherproof signs, and two of these are issued to each member for display at his stand. Each sign carries conspicuously the mark of approval of the organization and the identifying number of the member to whom it is issued. The signs are 20 inches wide and 28 inches high, of 18-gauge, rust-resisting sheet metal, with the design in ivory and dark green on one side only, finished in baked enamel, and with drill holes provided for mounting. They are attractive and readily visible from a considerable distance.

These signs are the property of the association. They are leased to the member, and they may be withdrawn by the organization and his membership cancelled at any time upon proof that the member has violated any of the rules or regulations of the association or upon failure to pay the annual dues of \$2.

The purposes of this organization are to encourage roadside produce marketing, and to provide means whereby customers may easily differentiate between markets of members and those of non-members. It endeavors to improve the business practices of its members, and to minimize unfair and fraudulent competition. It encourages the use of more attractive markets and surroundings. It gains in influence as its membership grows.

The shack and shanty stage of our roadside marketing development is rapidly being displaced by practices that are sounder and more business-like.

OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER
ADDRESS: AMERICAN FRUIT GROWER,
1370 Ontario Street, Cleveland, Ohio

BASKET TURNERS

COWL BASKET TURNER, BENCH STYLE, TURNS over 2,000 baskets per day and gives an even face. Price \$15.00 plus parcel post. Dealer proposition. FRUIT PACKING EQUIPMENT COMPANY, Swoope, Virginia.

BERRY BOXES

USE ROLLRIM BERRY BOXES FOR MODERN PACKING OF FRUITS AND VEGETABLES. Send for prices. Capacity seventy million annually. ROLLRIM BOX COMPANY, Benton Harbor, Michigan.

BUSHEL CRATES

FOR EVERY PURPOSE, LIGHT, STRONG AND DURABLE. Descriptive circulars, Prepaid freight prices. Prompt service. FRE PATTON, Jewett, Ohio.

CIDER MILLS

ORCHARD PROFITS INCREASED USING CULL APPLES for cider and vinegar. Cider and grape presses, graters, pumps, filters, supplies. Booklet F how to keep cider sweet and make vinegar quickly. Free. PALMER BROS., Cos Cob, Connecticut.

DAIRY GOATS

DAIRY GOAT JOURNAL, DEPT. 803, FAIRBURY, Nebr. Monthly Magazine, 25c yearly; 5 months 10c.

ELECTRIC PUMPS

WORLD'S SIMPLEST ELECTRIC PUMP—ONLY 1 moving part. Nothing to wear or cause trouble, 28-foot suction lift. Operated cheaply. Money-back guarantee. Thousands satisfied users. Write for Free Catalog. Dept. 198, MICRO-WESTCO, Inc., Bettendorf, Iowa.

FILMS

FILMS—10c PER ROLL, 120 OR 116. REFLEX, Kirksville, Missouri.

FOR SALE

120 ACRE ORCHARD, 13 YEARS OLD, ON MAIN highway, Reading to Philadelphia. Five miles from Reading, forty miles from Philadelphia. Fine condition. Best commercial varieties. Large stone dwelling with bathroom and other conveniences. Two barns. New and modern machinery. Price very reasonable, including this year's crop of approximately ten thousand bushels peaches, five thousand bushels apples. \$25,000 (less than cost of replacing buildings). Terms to suit. Apply 605 CO-OP TRUST BUILDING, Reading, Pennsylvania.

FRUIT GRADERS

THE "BUTLER" DIVIDES FRUIT INTO ANY FOUR of seven sizes. Rings instantly interchangeable. It "Handles the Fruit with Rubber Gloves." Weighs only 200 lbs.—easily portable. All steel construction—nothing to build or assemble. Over 12 feet in length but folds to 24 inches. Handpower only \$90; electric, \$115; gasoline, \$140. WE PAY THE FREIGHT. Write for illustrated circular. BUTLER MFG. CO., Conneaut, Ohio, U.S.A.

HOSIERY

BEAUTIFUL QUALITY HOSIERY, 5 PAIRS \$1 (1 pair 25c). DIRECTCO, AF-221 W. Broad, Savannah, Georgia.

LADDERS

FOR EVERY PURPOSE, LIGHT, STRONG AND DURABLE. Descriptive circulars, prepaid freight prices, prompt service. FRE PATTON, Jewett, Ohio.

PATENTS

National Trade Mark Company
Munsey Building
Washington, D. C.
Trade Mark Specialists

PATENTS, LOW COST, BOOK AND ADVICE FREE. L. F. RANDOLPH, Dept. 588-A, Washington, D. C.

PHOTO FINISHING

MAIL US YOUR FILMS: \$25.00 PRIZE OFFER—TWO beautiful olive tone enlargements and 8 perfect prints. 25c Coin. NU-ART PHOTO SHOP, La Crosse, Wisconsin.

FILMS DEVELOPED ANY SIZE, 25c COIN, INCLUDING two enlargements. CENTURY PHOTO SERVICE, Box 829, La Crosse, Wis.

POOROUS IRRIGATION HOSE

WRITE ABOUT POOROUS HOSE IRRIGATING. B. & B. IRRIGATING SYSTEM, Port Clinton, Ohio.

RHEUMATISM, NEURITIS

RHEUMATISM, NEURITIS, ACHEs AND PAINS quickly relieved with Wintergreen Tablets, absolutely guaranteed. Write for free literature. Department A, THE KEENE PHARMACAL CO., Delaware & Ohio St., Indianapolis, Indiana.

SALESMEN WANTED

CASH PAY WEEKLY FOR SALESMEN—SPARE OR full time. Many make \$50.00 or more in a week. Selling Highest Quality Stark Trees, Shrubs, Roses, etc. Healthful outdoor work. Write Quick for FREE Sales Making Outfit and WEEKLY PAY Plan. No cash or experience needed. If you can't sell, BUY Stark Trees. Largest Nurseries in World. Nearly 125 Years Old. WRITE FOR CATALOG. STARK NURSERIES, Box C-185, Louisiana, Mo.



featuring—

Unusually Comfortable Rooms, Good Food, Faultlessly Served and Moderate, Uniform Rates.

In CLEVELAND it's

● **THE HOLLOWDEN**

In COLUMBUS it's

● **THE NEIL HOUSE**

In AKRON it's

● **THE MAYFLOWER**

In TOLEDO it's

● **THE NEW SECOR**

In DAYTON it's

● **THE BILTMORE**

FOR YOUR WINTER VACATION

In MIAMI BEACH it's

● **THE FLEETWOOD**

**Be a
McNess Man**

**No Time Like
Now to Get in—
Make up to \$75 a week**

It's no trick to make up to \$12 a day when you use your car as a McNess "Store on Wheels". Farmers are buying everything they can get from McNess men. Attractive business-getting prizes, also money-saving deals to customers make selling McNess daily necessities a snap. This business is depression-proof.

We Supply Capital—Start Now!

There's no better work anywhere—pays well, permanent, need no experience to start and we supply capital to help you get started quick. You start making money first day. Write at once for McNess Dealer Book—tells all—no obligation. (92-A)

FURST & THOMAS, 318 Adams St., Freeport, Ill.

Books for Fruitmen

CITRUS DISEASES AND THEIR CONTROL, by Howard S. Fawcett, McGraw-Hill Book Co., Inc., New York City.

Revised this spring, this book completely covers the host of diseases attacking Citrus. The author is Professor of Plant Pathology at the Graduate School of Tropical Agriculture and Citrus Experiment Station of the University of California.

Each disease is fully treated with discussions on history and distribution, symptoms, the causal agent, contributing conditions and the latest preventive and control measures. The author dedicates this 656-page book "To those interested in maintaining the health of Citrus trees and fruits the world over, and in particular to those who, by encouragement, suggestion, and cooperation, are aiding basic investigations to that end."

ILLINOIS "MASTER AWARD" WINNER

(Continued from page 7)

Our plant has a capacity of 25,000 gallons of vinegar. We started the generator on January 15 and in a few days had vinegar of high strength and excellent quality. Prior to starting the generator we had stored the cider in several large tanks. This is the way that we handled our surplus for the 1935 crop and stored only top-grade fruit. I feel that we would not have the marketing problem that is facing us today if all growers would store top-grade fruit. One of our greatest needs today is a law to prohibit the sale of low-grade apples except for by-product use.

Our entire orchard is planted with not more than two or three rows of one variety together to aid in pollination. We purchased 100 colonies of bees in 1935 which gives us three colonies per acre for the bearing orchard. Before last season we rented 30 colonies each year.

We like to have our trees thicker than most growers and because of this preference we generally prune half of the trees each year, rather lightly. We have not practiced cultivation in the bearing orchard during the past four years. We do mow the grass and weeds two or three times each season.

We have used more than 300 tons of ground limestone, having covered every acre of the orchard as well as all pasture land. This enables us to raise sweet clover on the pasture for the bees and for stock feeding. Soybean hay is raised on the young orchard, being certain to cut the hay before any of the beans mature so that none of the plant foods will be used by the ripening beans. Rye is used for a winter cover crop and is plowed down in May to supply green manure.

Sheep are fed in the packing house during the winter using hay and other feed from the cultivated land and the manure thus obtained is placed on the bearing orchard. This plan has worked fine in the past and we plan to keep it up. A cleaner and polisher was purchased in 1935 which gave fine results and this season we are trying to produce fruit that is free from any residue by using nicotine and other lead substitutes.

In keeping with the present trend toward rural electrification we built our own line last year that is one-half mile long and carries 6900 volts. The assistance of one regular electrician was required, but otherwise regular farm help was used in setting up the line. We use a direct-connected electric pump for pumping 800 gallons

daily of cider and vinegar during the production season. Electricity is also used for pumping water, operating furnace, all cooking and for such small items as vacuum cleaner, refrigerator, sewing machine, radio, ice-cream freezer, corn popper, irons, fans, three types of heaters and lights. During the packing season we use a one horsepower motor on the grader and a one-half horsepower motor on the cleaner and polisher. For all of these services our electric bills have averaged \$8.50 per month which we think is reasonable.

My 14-year-old son has driven the tractor during the summer for the past two years and cares for routine work connected with vinegar making.

We are often asked by customers, who buy most of our fruit right from the farm, if we eat apples or if we are not tired of them. We always tell them that we probably eat far more than the average person, that we have practically "lived" on apples since 1920 and still like them.

STATE NEWS

(Continued from page 11)

cherries in our principal cherry section, Door County, Wisconsin, will also have a short crop of apples. The necessity of using nitrogen fertilizer between the trees in the orchard each year, especially on light, sandy soil, was emphatically shown this season. In an orchard on light sand on which fertilizer had been used with a heavy crop of quack grass grown which was allowed to go down without cutting each year, we found that on the north side of the trees the soil contained sufficient moisture. In orchards where there was a scant growth of grass and no mulch, trees suffered during the drought period because of the drying effect of the sun and wind on the soil.—H. J. RAHMLOW, Sec'y, Madison.

MASSACHUSETTS—The annual summer field day of the Massachusetts Fruit Growers' Association will be held August 8, at Marshall Orchards, Fitchburg, Massachusetts. Speakers will include J. Ralph Graham, Chairman of the New England Agricultural Council; Walter B. Farmer, fruit grower, Hampton, New Hampshire; William H. Darow, Putney, Vermont; John Lyman, Middlefield, Connecticut and Walter R. Clark, Milton, New York.—W. R. COLE, Sec'y, Amherst.

DEWBERRY FERTILIZATION

Two applications of fertilizer are made to dewberries in North Carolina after the first year of growth. The first application is made just after the crop is harvested and the canes cut off. This is primarily made to stimulate a rapid growth of vigorous new canes. 100 pounds of nitrate of soda and from 500 to 800 pounds of cottonseed meal, or 10 to 20 tons of manure are used by some growers.

Nut Growers to Meet at Geneva

THE Northern Nut Growers' Association will hold its twenty-seventh annual meeting at the Experiment Center Station, Geneva, N.Y., September 14, 15, and 16, 1936. A full program is being prepared for the three day meeting.

A wide range of topics will be discussed by those on the program. An evening session will be devoted to a house-cleaning of the variety list. D. C. Snyder will discuss "The present standing of the prize winners in the early nut contests," and L. H. MacDaniels will lead the discussion in which it is hoped the merits and faults of the many varieties now being grown may be revealed. Various phases of nut tree breeding will be presented by E. J. Schreiner of the Tennessee Valley Authority; Gilbert Smith, Wassaic, N.Y., and J. B. Goble, Stewarts-town, Pa. Several papers will treat nut culture in the northern states and L. H. MacDaniels will give an illustrated talk on "Nut Culture for the Beginner," with emphasis on New York conditions.

H. B. Tukey will discuss "Stock and Scion Relationships," and O. F. Curtis "The Temperature of Grafts with Various Waxes and Types of Protection." R. B. Clapper and G. F. Gravatt will present "The Status of Work with Blight Resistant Chestnuts."

The extensive filbert collection of the Experiment Station will be of especial interest to nut growers. This collection includes about 120 varieties and nearly 2000 seedlings from various crosses. Over 500 of the seedlings will be fruiting. The Station will exhibit some of the more promising selections from the filbert seedlings. An afternoon will be spent visiting the filbert plantings, orchards and vineyards of the Experiment Station where nearly 2000 varieties of fruits and many thousands of seedlings are being grown. On September 17 the annual meeting of the New York State Fruit Testing Cooperative Association will be held with talks on new fruits by specialists from various parts of the country and an extensive exhibit of new varieties resulting from the breeding work of the Geneva and other stations.

The third day of the meeting, September 16, will be devoted to a trip to the nut plantings of the College of Agriculture at Ithaca, where many varieties of nuts other than filberts are being grown. A picnic will be held in one of the glens for which the Ithaca region is famous. Ithaca and Geneva are located on lakes in the beautiful Finger Lakes section of Central New York, and there are many points of great scenic interest within a few miles of each place.

Complete programs of the nut meeting and the Fruit Testing Association meeting may be had on request from G. L. SLATE, Sec'y., Northern Nut Growers' Assn., Geneva, N.Y.

Michigan Apple Institute

ANOTHER State Apple Institute was launched on the fruit advertising scene with the recent formation of the Michigan Apple Institute. Directors of the new Institute are: C. C. Taylor, Albion; Russell Evarts, Lapeer; Wesley Mawby, Grand Rapids; Max Smith, Millburg; Ed Payne, Fennville; R. A. Buyce, Bangor; B. F. Hall, Belding; Wesley Hawley, Ludington; Arthur Seel, Benzonia; Sam Cahodas, Ishpeming and Manistee; H. D. Hootman, East Lansing; L. H. Spicer, Farmington; William Morf, Jr., Chicago; and W. J. Lamping, J. A. King and Percy Smeltzer of Detroit. Advertising funds are to be raised by contributions from growers on the basis of one-half cent per bushel for apples of B grade or better.

25% MORE WORK PER GALLON

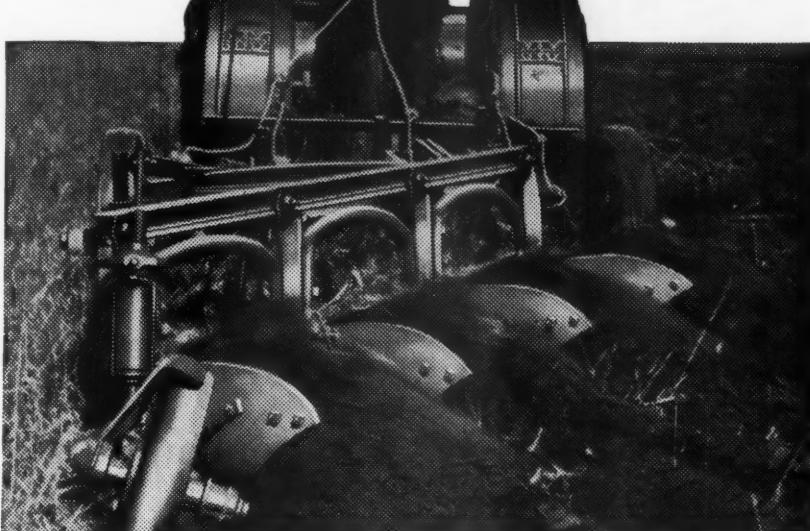


Earl Dauberman

say George and Earl Dauberman of Maple Park, Illinois—who give their figures on how high compression and 70 octane gasoline cut costs for them



George Dauberman



"GLAD to have other farmers learn of our experience with high compression," write George and Earl Dauberman. "It enables one to do much more work with his tractor. It cuts the fuel cost per acre about 25%.

"The Twin City 'KTA' is a three-plow job with low compression; but with a high compression head and using regular grade gasoline, we pull four fourteen-inch bottoms in high gear at 4½ miles an hour.

"With low compression this tractor plows 2 acres an hour with a 3-bottom plow. With high compression it plows 2.66 acres an hour with a 4-bottom plow—an increase of ½ an acre an hour—and uses no more fuel.

Oil Costs cut 60%—"This high compression tractor has been operating 100 hours between oil changes. If distillate were used, oil would be changed each 40 hours to comply with the manufacturer's instructions. With crankcase dilution eliminated, oil holds its body in hot or cold seasons.

Eleven months' record—"We kept accurate records of time, fuel and oil—

Hours operated: 600; Gallons of gasoline: 1283; Gallons of oil: 20; Work accomplished:
1. Approximately 150 hours belted to hammer mill—max. load. 2. Approximately 140 hours pulling four-bottom plow—max. load. 3. About 100 hours pulling ensilage harvester to fill 4 silos—max. load. 4. Preparing seed bed for corn and oats on 300-acre farm. 5. Belted to 28-inch threshing machine for 100 acres of threshing. 6. Numerous jobs, which were light work."

Make these savings yourself—See your dealer or write your factory for complete information on parts and costs of converting your tractor to high compression. When buying a new tractor, be sure to specify high compression.

Get the better work—greater convenience—and lower oil consumption that good gasoline gives. Oil companies in every state now sell gasolines of approximately 70 octane number at regular price. Most of these gasolines contain lead tetraethyl (anti-knock ingredient).

Ethyl Gasoline Corporation, Chrysler Building, New York City, manufacturers of anti-knock fluids for premium and regular gasolines.

It pays to buy GOOD GASOLINE FOR CARS, TRUCKS AND TRACTORS



CHEVROLET VALVE-IN-HEAD SIXES

Most power per gallon—lowest cost per load

Buy One and Save Money



NEW PERFECTED HYDRAULIC BRAKES
always equalized for quick, unwavering, "straight line" stops



NEW FULL-TRIMMED DE LUXE CAB
with clear-vision instrument panel for safe control

Truck buyers in all parts of America are nominating and electing Chevrolets!

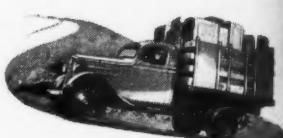
In fact, they are displaying such complete and overwhelming preference for Chevrolet trucks this year that all previous Chevrolet sales records have been broken.

You, too, will find Chevrolet the wisest truck investment you can possibly make. Because Chevrolet trucks sell in the lowest price range . . . because they have more pulling power than any other low-priced truck . . . because they use less gas and oil . . . and because they are the most economical trucks for all-round duty.

All tests prove that Chevrolets are more economical, just as all comparisons prove that they're the only low-priced trucks with such important features as High-Compression Valve-in-Head Six-Cylinder Engine, New Perfected Hydraulic Brakes, Full-Floating Rear Axle on $1\frac{1}{2}$ -ton models, and New Full-Trimmed De Luxe Cab with clear-vision instrument panel for safe control.

Do as other wise truck buyers are doing. Choose Chevrolet trucks for the most power per gallon—for the lowest cost per load—and for the greatest satisfaction throughout thousands of miles of dependable service. Choose Chevrolet—and save money!

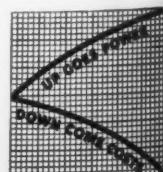
CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN



NEW HIGH-COMPRESSION VALVE-IN-HEAD ENGINE
with increased horsepower, increased torque, greater economy in gas and oil



FULL-FLOATING REAR AXLE
with barrel type wheel bearings on $1\frac{1}{2}$ -ton models



GENERAL MOTORS INSTALLMENT PLAN—MONTHLY PAYMENTS TO SUIT YOUR PURSE



CHEVROLET TRUCKS
WORLD'S THRIFTIEST HIGH-POWERED TRUCKS

SEPTEMBER